REMARKS

This application has been reviewed in light of the Office Action dated July 14, 2004. In view of the foregoing amendments and the following remarks, favorable reconsideration and withdrawal of the rejections set forth in the Office Action are respectfully requested.

Claims 8-13 are pending. Claim 8 has been amended. Support for the claim changes can be found in the original disclosure, and therefore no new matter has been added. Claim 8 is the sole independent claim.

Claims 8-13 were rejected under 35 U.S.C. § 112, first paragraph, as not supported by the specification, as filed. Specifically, the Examiner states that the recitation of "simultaneously" in Claim 8 is new matter. Applicant respectfully traverses this rejection.

Specifically, support for the subject matter in question may be found in the specification, for example, at page 7, in the last paragraph before the Brief Description of Drawings. It is noted that the "ink path forming material" and "ink-repellent photosensitive material" referred to in that paragraph are exemplified by the liquid path forming material 10 and the ink-repellent material 11, respectively (see, e.g., page 10, second and third full paragraphs; page 12, last paragraph; and page 13). As relatedly explained in the specification, the lack of simultaneous irradiation of the first active energy setting material and the ink-repellent second active energy setting material may be considered one of the problems in the prior art (see page 5, lines 5-8).

In view of the above remarks, withdrawal of the rejection under Section 112 is respectfully requested.

Claims 8, 9, 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,458,254 (*Miyagawa et al. '254*) in view of U.S. Patent No. 5,331,344 (*Miyagawa et al. '344*). Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Miyagawa et al. '254* in view of *Miyagawa et al. '344* and further in view of U.S. Patent No. 4,429,027 (*Chambers et al.*). Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Miyagawa et al. '254* in view of *Miyagawa et al. '344* and further in view of U.S. Patent No. 4,536,468 (*Yasui et al.*). In response, while not conceding the propriety of these rejections, independent Claim 8 has been amended. Applicant submits that, as amended, that claim is allowable for at least the following reasons.

Independent Claim 8 recites, *inter alia*, a step of forming the same latent image pattern of an ejection port for ejecting ink in both a first active energy setting material and an ink-repellent second active energy setting material by exposing both the first active energy setting material and the ink-repellent second active energy setting material in a process by applying light to both the first active energy setting material and the ink-repellent second active energy setting material simultaneously through a mask corresponding to the ejection port for ejecting ink, and a step of developing the latent image formed in the preceding step in the first active energy setting material and the ink-repellent second active energy setting material so as to form the ejection port above an ink ejection pressure generating element.

By virtue of the invention as set forth in Claim 8, a very precise ejection port may be formed from the ejection port forming material (first active energy setting material) and the ink-repellent layer (ink repellent second active energy setting material) without geometrical discrepancy between the two materials. As a result, an ink-jet recording head having a uniform

ink-repellent property around the ejection port on the ejection port forming surface may be manufactured more easily and at a lower cost.

Miyagawa et al. '254 relates to a method for manufacturing a liquid jet recording head. According to the method, an ink flow passage pattern 4 is formed on a substrate 1 by a dissolvable resin, a resin layer 5 is formed on pattern 4, a silicon oxide film 6 is formed on resin layer 5, and a resist is formed on film 6 (see, e.g., col. 9, line 50 - col. 12, line 4 and col. 15, lines 41*ff*). Further, a pattern exposure is applied to the film 6, which is then developed and rinsed. After this, the film 6 is etched by a plasma to form an ink discharging port pattern (see, e.g., col. 11, lines 51-56).

Miyagawa et al. '254 is not understood to teach or suggest the above-noted steps of independent Claim 8, which include forming the same latent image pattern of an ejection port for ejecting ink in both a first active energy setting material and an ink-repellent second active energy setting material.

Miyagawa et al. '344 relates to a method for producing a liquid discharging recording head, a recording head produced thereby, and a recording apparatus utilizing the recording head. According to *Miyagawa et al. '344*, a latent image 6 of the pattern of an ink channel is formed by exposing a first photosensitive material layer 3 to light irradiation in direction A through mask 4 corresponding to an ink channel 11 (col. 12, lines 24-29; Fig. 3). Then a latent image 8 in the pattern of ink discharge openings and a latent image 9 in the pattern of an ink supply opening are formed by exposing a second photosensitive material layer 5 to light irradiation in direction B through mask 7 corresponding to ink discharge openings 12 and ink supply opening 13 (col. 13, lines 7-13; Fig. 5). Then the latent images 6, 8 and 9 are

developed, whereby the ink channel 11, ink discharge openings 12 and ink supply opening 13 are formed (col 13, lines 38-44).

It is noted that, according to *Miyagawa et al. '344*, the latent image pattern 8 in the pattern of ink discharge openings is formed in the second photosensitive material layer 5, not in the first photosensitive material layer 3. Indeed, *Miyagawa et al. '344* specifies that "there is required a measure for avoiding the influence of the light [used] for forming the pattern of the ink discharge openings [on the second photosensitive material layer 5,] on the first layer 3" (col. 13, lines 30-33). Nothing in *Miyagawa et al. '344* is seen to teach or suggest forming the same latent image pattern of an ejection port for ejecting ink in both a first active energy setting material and a ink-repellent second active energy setting material. Accordingly, Applicant understands that nothing in *Miyagawa et al. '344* would teach or suggest the above-noted steps of independent Claim 8.

In the Office Action, the Examiner presented his responses to the arguments Applicant presented in the Amendment After Final Rejection filed on March 11, 2004. However, according to Applicant's understanding, the Examiner did not address all of the arguments Applicant presented in that Amendment. For example, the Examiner cites Fig. 5 of *Miyagawa et al. '344* as teaching the simultaneous application of light to both a first active energy setting material and an ink-repellent second active energy setting material. However, in the last Amendment (see page 7 thereof), Applicant pointed out that the text of *Miyagawa et al. '344* teaches that when second layer 5 is exposed to light, first layer 3 should not be exposed to light. Applicant submits that the figures of *Miyagawa et al. '344* must be interpreted in view of the text thereof. Accordingly, Applicant understands that, as put forth in the last Amendment,

Miyagawa et al. '344 does not teach the simultaneous application of light to both layers. Applicant respectfully requests that the Examiner clarify his response so as to address this argument.

In addition, in his response the Examiner states that the exposure processes of *Miyagawa et al. '254* and *Miyagawa et al. '344* form art-recognized equivalent ink-jet heads, and that the structure of the two heads is deemed equivalent, not the exposures. However, in the last Amendment (see page 8 thereof), Applicant presented arguments that the structures of the two heads may be different, to the extent that the hypothetical combination of different aspects of the two methods (of *Miyagawa et al. '254* and *Miyagawa et al. '344*, respectively) may not be feasible and/or may not yield the allegedly resulting product. Applicant respectfully requests that the Examiner clarify his response so as to address this argument.

For at least the reasons given above, Applicant understands that neither *Miyagawa et al. '254* nor *Miyagawa et al. '344*, whether taken singly or in combination (even assuming, for the sake of argument, that such combination were permissible), contains all of the elements of independent Claim 8. Accordingly, that claim is believed allowable over the cited art.

A review of the other art of record, including *Chambers et al.* and *Yasui et al.*, has failed to reveal anything which, in Applicant's opinion, would remedy the deficiencies of the art discussed above, as references against independent Claim 8. That claim is therefore believed patentable over the art of record.

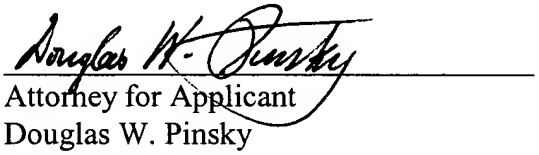
The other claims in this application are each dependent from independent Claim 8 and are therefore believed patentable for at least the same reasons. Since each dependent claim

is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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